King County
Department of Natural Resources and Parks
Water and Land Resources Division
Noxious Weed Control Program
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BEST MANAGEMENT PRACTICES

Gorse (*Ulex europaeus*) Fabaceae

Class B Noxious Weed

Impact

- Displaces native and beneficial plants causing considerable loss of grassland and open forest habitat.
- Extreme fire hazard.
- Seeds can be viable for 30 years or more, requiring a long-term management plan for control.
- Quickly spreads by seed or by vegetative growth from stumps after mechanical injury caused by brush clearing or fire.

Description

- Perennial, evergreen shrub ranging from 3 feet to over 10 feet tall.
- A member of the legume family, gorse has bright yellow pea-like flowers, ½ to ¾-inch, at the end of its branches.
- Seedlings are compact, with trifoliate leaves typical of legumes.
- Sharp spiny thorns develop as the plant ages.
- Plants grow increasingly shrub-like with age, sprouting outward from the root crowns and leaving a center of dead vegetation.
- Blooms in late February and March.

Habitat

- Occurs in cool, medium to high rainfall and mid-temperate zones of both the northern and southern hemispheres.
- Can tolerate a range of moisture conditions, though it does best with high levels of soil moisture and adequate drainage.
- Grows well in areas ranging from full sun to moderate shade, and tolerates relatively acidic soils.
- Can fix atmospheric nitrogen and can tolerate a wide range of conditions. It tends to take up nutrients and further degrade soils, and displaces native vegetation.
- Sites are often disturbed areas with poor, infertile soils such as along roadsides and fencerows.

Reproduction

- Perennial that reproduces primarily by seed but it can also spread vegetatively.
- Typically flowers in late winter to early spring (Feb – Mar), but can flower throughout the year depending on site conditions.
- Seeds are hard and water-impermeable. Seeds remain viable for up to 30 years.
- Can resprout from stumps and root cuttings and can produce flowers 6 months after rooting.

Control Methods

The preferred management plan uses Integrated Pest Management (IPM). IPM involves selecting from a range of possible control methods to match the management requirements of each specific site. The goal is to maximize effective control and to minimize negative environmental, economic and social impacts. Management may require dedication over a number of years, and should allow for flexibility in methods as appropriate.

Early Detection and Prevention

- Look for gorse in disturbed areas with poor, infertile soils such as, vacant lands, roadsides, fencerows and railroad rights-of-way for flowering and pre-flowering plants from about **February to March**.
- Isolated small populations can be dug up but the site should be monitored for several years for plants growing from root fragments and from the seed bank.
- Prevent plants from spreading from existing populations by washing equipment, vehicles, and boots that have been in infested areas.
- Cover all noxious weed loads when transporting to a landfill.

Manual

- Hand pulling may be effective for small infestations, in removing seedlings and young plants up to about three feet tall. Seedlings are easiest to remove after rain, when the whole root system can be removed.
- Hoeing may remove smaller plants, and may effectively be used to uproot seedlings. Larger plants and their roots may be extracted by larger hoes, pulaskis, or claw mattocks.
- Extraction with a weed wrench may successfully remove larger plants. Gorse tends to spread at the base, and effectiveness of this tool may be limited by the size of the trunk system.
- Cutting stems will remove aboveground growth only and is a temporary treatment. The roots remain in the ground and will re-sprout. This method can be appropriate to increase the accessibility to the plants, reduce standing biomass to assist in future manual control, and to prevent seed-set for a growing season.

Mechanical

- Mowing is an option for flat and low to moderate slope areas. Several mowings may be necessary to deplete root reserves. If utilizing only one cut during the season, it is recommended to cut before flower production.
- Cutting is recommended before herbicide application. A cut gorse plant will re-sprout from the crown in greater density without a follow-up herbicide application.
- Mowing may be used as an initial brush removal step when confronting a large infestation, but will need to be combined with other control methods for full effectiveness.

Controlled Burning

- Controlled burning can be effective in controlling dense gorse infestations. Check local regulations for special permits, burn bans, or other restrictions.

Biological

- Goats may be effective in controlling seedlings or on re- growth less than 4 inches high.
- Chickens are reportedly effective in reducing the seed bank in mature stands. The seeds are digested and destroyed, and chickens grazed back the vegetation in areas of one acre or less.
- The gorse weevil (*Apion ulicis*) was released in Washington in the mid-1960's. The weevil eats the seeds, spines and flowers. The weevil is only partially successful, as the root reserves enable gorse to recover.

Chemical

- Chemical control options may differ for private, commercial and government agency users. Follow all label directions. Herbicides should only be applied at the rates and for the site conditions / land usage specified on the label.
- **Certain herbicides can not be used in aquatic areas or their buffers**. If herbicides are used, make sure that their use is allowed at your site. Contact your local noxious weed control program for control guidelines in your area.
- Several herbicides are recommended by the PNW Weed Control Handbook for gorse control. For site specific herbicide recommendations, please contact the King County Noxious Weed Control Program.
- The addition of a suitable surfactant to the herbicide may improve the control results.
- Non-selective herbicides are effective but may damage grass and other vegetation. Treatment with a non-selective herbicide needs to be followed by re-seeding with grass. Without re-seeding, bare areas will be re-infested from the seed bank and by any missed plants. Selective herbicides that target only broadleaf plants may be used in grassy areas.
- The best time to control gorse is in the spring after flower drop.

Legal Status in King County:

Gorse is a Class B Noxious Weed. The King County Noxious Weed Control Board requires property owners to control gorse on private and public lands throughout the county.

Local Distribution

Primarily found in the western areas of King County. Known sites are located in Seattle, Vashon Island, Federal Way, Tukwila and Carnation.

History

Introduced as an ornamental to Oregon when seeds were brought from Ireland, prior to 1894. Occurs from California to British Columbia along the West Coast. The oily foliage and seeds are highly flammable. Individual plants develop dense dead matter in their centers, and stands produce extremely high amounts of litter. These characteristics serve to intensify the fire hazard of dense gorse-dominated areas. Gorse's thorn-like growth acts as a physical barrier and makes it an unpleasant presence in the landscape.

References

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